

Title (en)
Use of moulding materials

Title (de)
Verwendung von Formmassen

Title (fr)
Utilisation de matières à mouler

Publication
EP 2481776 A1 20120801 (DE)

Application
EP 12151443 A 20120117

Priority
• EP 11152464 A 20110128
• EP 12151443 A 20120117

Abstract (en)
Use of molding composition comprising (in parts by wt.): (a) at least one polyamide and/or copolyamide (40-98.98); (b) at least one copolymer (1-10); (c) at least one di- or polyfunctional branching or chain-extending active additive (0.01-10); and (d) at least one impact modifier (0.01-40) for improving the durability of products, moldings, components, molding parts or semifinished products for motor vehicles, preferably in internal combustion engines, with respect to resistance against crankcase gases and/or crankcase components, is claimed. Use of molding composition comprising (in parts by wt.): (a) at least one polyamide and/or copolyamide (40-98.98); (b) at least one copolymer (1-10) comprising at least one olefin, preferably alpha -olefin and at least a methacrylic or acrylic acid ester of an aliphatic alcohol, where the melt flow Index of the copolymer is greater than 10 g/10 minutes and the melt flow index is determined or measured at 190[deg] C and at a load of 2.16 kg; (c) at least one di- or polyfunctional branching or chain-extending active additive (0.01-10) comprising at least two and not > 15 branching or chain extension acting functional groups per molecule; and (d) at least one impact modifier (0.01-40) different from the components (b) and (c) for improving the durability of products, moldings, components, molding parts or semifinished products for motor vehicles, preferably in internal combustion engines, with respect to resistance against crankcase gases and/or crankcase components, is claimed. An independent claim is also included for improving products, moldings, molded parts or components in motor vehicles with respect to resistance against crankcase gases and/or crankcase components, comprising producing products, moldings, molded parts or components by means of extrusion, profile extrusion, blow molding, preferably standard extrusion blow molding, three dimensional extrusion blow molding, suction blow molding and sequential co-extrusion, or injection molding of molding composition, and mounting the produced products, moldings, moldings and components as air-carrying components or components for air-conducting components in motor vehicles, preferably in internal combustion engines, preferably as clean air ducts or charge air tubes, preferably charge air flow or as charge-air reflux, intake pipe, crankcase ventilation or gearbox ventilation.

Abstract (de)
Die vorliegende Erfindung betrifft die Verwendung von Formmassen, enthaltend A) wenigstens ein Polyamid und/oder Copolyamid, B) wenigstens ein Copolymerisat enthaltend mindestens ein Olefin und mindestens einen Acrylsäureester eines aliphatischen Alkohols, C) wenigstens ein di- oder multifunktionelles verzweigend oder kettenverlängernd wirkendes Additiv, D) wenigstens einen von den Komponenten B) und C) verschiedenen Schlagzähmodifikator und gegebenenfalls noch E) sonstige von den vorgenannten Komponenten sich unterscheidende Additive zur Herstellung von Erzeugnissen, Bauteilen, Formkörpern, Formteilen oder Halbzeugen mit erhöhter Beständigkeit gegenüber Kurbelgehäusegasen und/oder deren Bestandteilen sowie ein Verfahren zur Verbesserung von Erzeugnissen, Formkörpern, Formteilen oder Bauteilen in Kraftfahrzeugen, bevorzugt in deren Verbrennungsmotoren, hinsichtlich ihrer Beständigkeit gegenüber Kurbelgehäusegasen indem man zu deren Herstellung jene Formmassen einsetzt.

IPC 8 full level
C08L 77/00 (2006.01); **C08K 5/1515** (2006.01); **C08L 23/08** (2006.01); **C08L 51/04** (2006.01); **C08L 51/06** (2006.01)

CPC (source: EP KR US)
C08K 5/1515 (2013.01 - EP US); **C08L 23/00** (2013.01 - KR); **C08L 23/0869** (2013.01 - EP US); **C08L 33/04** (2013.01 - KR); **C08L 51/04** (2013.01 - EP US); **C08L 51/06** (2013.01 - EP US); **C08L 77/00** (2013.01 - EP KR US); **C08L 101/02** (2013.01 - KR)

Citation (applicant)
• EP 1537301 B1 20091111 - ALFA LAVAL CORP AB [SE]
• DE 10127819 A1 20030102 - BOSCH GMBH ROBERT [DE]
• DE 202007003094 U1 20070510 - PORSCHE AG [DE]
• DE 102008018771 A1 20081023 - AISAN IND [JP]
• EP 0208187 A2 19870114 - BAYER AG [DE]
• EP 0050265 A1 19820428 - BAYER AG [DE]
• US 4148846 A 19790410 - OWENS FREDERICK H, et al
• US 4327201 A 19820427 - KENNEDY JOSEPH P, et al
• DE 3725576 A1 19890209 - BAYER AG [DE]
• EP 0235690 A2 19870909 - BAYER AG [DE]
• DE 3800603 A1 19890720 - BAYER AG [DE]
• EP 0319290 A2 19890607 - POLYPLASTICS CO [JP]
• "Kunststoffe", November 2007, CARL HANSER VERLAG, article "Rohrsysteme im Motorraum", pages: 126 - 128
• "Luftführung unter der Motorhaube", August 2001, CARL HANSER VERLAG, pages: 79 - 81
• B. CARLOWITZ: "Tabellarische Übersicht über die Prüfung von Kunststoffen, 6. Auflage", 1992, GIESEL VERLAG
• THERMOPLASTEN NACH DIN, vol. 53, 1988, pages 735
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 460 - 462
• SMITH; MARCH: "March's Advanced Organic Chemistry(5. Auflage,", 2001, WILEY-INTERSCIENCE
• HOUBEN-WEYL: "Methoden der organischen Chemie", vol. 14/1, 1961, GEORG-THIEME-VERLAG, pages: 392 - 406
• ODIAN: "Principles of Polymerization(Fourth Edition,", 2004, WILEY-INTERSCIENCE
• BEMD TIEKE: "Makromolekulare Chemie", 2005, WILEY-VCH, pages: 86 - 90
• GEORGE ODIAN: "Principles of Polymerization", 2004, WILEY-INTERSCIENCE, pages: 350 - 371
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 80-84 - 352-361
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 949-959 - 966
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 535-541 - 546-548
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 627 - 636
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 630
• "Plastics Additives Handbook, 5th Edition,", 2001, HANSER-VERLAG, pages: 813-818 - 823,872

- "Polyamide", vol. 3/4, 1998, CARL HANSER VERLAG, article "Kunststoff-Handbuch", pages: 374 - 384
- THIELEN; HARTWIG; GUST: "Blasformen von Kunststoffhohlkörpern", 2006, CARL HANSER VERLAG, pages: 15 - 17
- THIELEN; HARTWIG; GUST: "Blasformen von Kunststoffhohlkörpern", 2006, CARL HANSER VERLAG, pages: 117 - 122
- THIELEN; HARTWIG; GUST: "Blasformen von Kunststoffhohlkörpern", 2006, CARL HANSER VERLAG, pages: 123
- THIELEN; HARTWIG; GUST: "Blasformen von Kunststoffhohlkörpern", 2006, CARL HANSER VERLAG, pages: 127 - 129

Citation (search report)

- [A] WO 2005121249 A1 20051222 - LANXESS DEUTSCHLAND GMBH [DE], et al
- [A] EP 1333060 A1 20030806 - BAYER AG [DE]
- [A] EP 1038921 A1 20000927 - ATOCHEM ELF SA [FR]
- [A] EP 1652888 A1 20060503 - HONDA MOTOR CO LTD [JP]
- [A] EP 1837487 A2 20070926 - TOYOTA MOTOR CO LTD [JP], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2481775 A1 20120801; CN 102618021 A 20120801; CN 102618021 B 20160511; EP 2481776 A1 20120801; EP 2481776 B1 20140319; ES 2464017 T3 20140529; IN 220DE2012 A 20150619; JP 2012158751 A 20120823; JP 5921216 B2 20160524; KR 101918769 B1 20181114; KR 20120087843 A 20120807; US 2012193839 A1 20120802

DOCDB simple family (application)

EP 11152464 A 20110128; CN 201210020477 A 20120129; EP 12151443 A 20120117; ES 12151443 T 20120117; IN 220DE2012 A 20120125; JP 2012014980 A 20120127; KR 20120008160 A 20120127; US 201213358536 A 20120126